

CLAIMS

1. A breathing protective device comprising a filter house body (1) having a filter house (8) with a filter house chamber (40) and a first wall section (45) having a number of through holes (47, 47a), at least one filter (2) in the filter house chamber inside said first wall section, and a mouthpiece (9) arranged to be introduced into and held in the user's mouth and having an air passage between an opening (53) in a second wall section (46) in the filter house (8) and an opening (54) at the end that is to be introduced into the user's mouth, characterised in
- that the filter house (8) has a first end (5), a second end (7) and said first and second wall section (45, 46) that extend between said ends of the filter house,
 - that the filter house is elongated and extends parallel to a line between the corners of the user's mouth when the mouthpiece is inserted in the user's mouth,
 - that said first wall section of the filter house is provided with a plurality of through holes (47, 47a) in at least one area and that it extends at least essentially straight in the longitudinal direction of the house at least on the inside in at least the area or areas in which said through holes are arranged,
 - that the filter is arranged in the filter house chamber, along said second wall section and covering the openings in this wall section,
 - that a non return valve (3, 33) that is closed at inhalation and opened at exhalation is arranged in at least said first end, and
 - that at least one passage (40) for exhalation air extends between the opening in the first wall of the filter house and said non return valve at the first end of the filter house.
2. A breathing protective device according to claim 1, characterised in that said first wall section of the filter house has an inside that is essentially straight in the longitudinal direction of the filter house but arched, bent or angled in a plane that is perpendicular to the longitudinal direction.
3. A breathing protective device according to claim 1 or 2, characterised in that the inside of said first wall section defines a cylindrical segment of the filter house chamber, that extends along at least the major part of the length of the filter house chamber and around at least the major part of its circumference, from a first position on one side of the opening in said second wall section, around the inside of said first section to a second position on the other side of said opening.

4. A breathing protective device according to any one of claims 1-3, characterised in that the length of the inner circumference of the first wall section is longer than the circumference of the wall section in the areas between the opening of this end section and said ends.
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5. A breathing protective device according to any one of claims 2-4, characterised in that the inside of said first wall section is essentially circular cylindrical.
6. A breathing protective device according to any one of claims 1-5, characterised in that attachment means (41, 42) for the filter (2) are arranged on the inside of the filter house.
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7. A breathing protective device according to claim 6, characterised in that said attachment means are arranged at said first and second positions on either side of and preferably close to the opening (53) in said second wall section (46).
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8. A breathing protective device according to claim 7, characterised in that the attachment means for the filter are designed as rails that, connected to the filter house wall, extend in the longitudinal direction of the filter house, along the entire length of said first wall section, and form longitudinal boundaries for this wall section and at the same time form seals against the longitudinal edges (10, 11) of the filter.
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9. A breathing protective device according to claim 8, characterised in that the longitudinal edges of the filter are arranged in grooves (43) in said attachment means.
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10. A breathing protective device according to any one of claims 1-9, characterised in that the filter, when mounted in the filter house chamber, has an outside contour that essentially follows the inside contour of the first wall section (45) of the filter house.
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11. A breathing protective device according to claim 10, characterised in that the filter is fixed between said attachment means to bear against or almost bear against the inside of the first wall section of the filter house.
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12. A breathing protective device according to claim 11, characterised in that the filter comprises both a filtering layer that contains a filter stuff and a supporting layer that is flexibly pliable and relatively stiff and has a plurality of openings (20, 21)

arranged close to each other, which supporting layer forms a first distance means between the filter house wall and the filtering layer.

13. A breathing protective device according to claim 12, characterised in that the
5 first wall section of the filter chamber is on its inside provided with a plurality of low height projections that form second distance means between the filter house wall and the filtering layer.

14. A breathing protective device according to claim 13, characterised in that
10 each opening in the supporting layer communicates with another opening in the supporting layer, such that a distribution of the air can be promoted thereby, before the air is sucked into the filtering layer.

15. A breathing protective device according to any one of claims 13 and 14,
15 characterised in that the supporting layer (15) is designed as a relatively coarse mesh plastic net formed of upper and lower, crossed strands (18, 19).

16. A breathing protective device according to any one of claims 1-15,
characterised in that a recess (30) is provided at said first end, on the outside of
20 the filter house, and in that the non return valve is recessed and fixed in this recess.

17. A breathing protective device according to any one of claims 1-16,
characterised in that an end wall section (38) is provided at the first end of the
filter house, all around the inside of the filter house, against which end wall section one
25 end edge (12) of the filter bears.

18. A breathing protective device according to claim 16 or 17, characterised in
that a seat (33) for a membrane (3) included in said non return valve is provided at the
bottom of the recess (30) at said first end.

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19. A breathing protective device according to any one of claims 1-18,
characterised in that a detachable cover (4) covers an opening (6) at the second
end (7) of the filter house, that the filter (2) via said opening (6) can be inserted in the
filter house chamber (40), and that the inside of the cover bears against the second end
35 wall (13) of the filter, after it has been put back over the opening.